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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/602,113

06/23/2003

Eugene F. Young

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MILA KASAN, PATENT DEPT.
APPLIED BIOSYSTEMS
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FOSTER CITY, CA 94404

EXAMINER

HYUN, PAUL SANG HWA

ART UNIT

PAPER NUMBER

1797

MAIL DATE

DELIVERY MODE

01/09/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/602,113

Applicant(s)

YOUNG ET AL.

Examiner

Paul S. Hyun

Art Unit

1797

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 October 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-42 and 46-53 is/are pending in the application.
- 4a) Of the above claim(s) 1-18 and 27-37 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 19-26, 38-42 and 46-53 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 June 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

REMARKS

The R.C.E. filed by Applicants has been acknowledged. Claims 1-42 and 46-53 are currently pending. Claims 1-18 and 27-37 remain withdrawn for being directed toward non-elected inventions. In summary, claims 19-26, 38-42 and 46-53 are pending for prosecution on the merits.

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the distribution network recited in claims 47-53 must be shown or the feature canceled from the claims. No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New

Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

The disclosure is objected to because the Specification does not provide a brief description of Figure 19. The Specification is also objected to because the Specification refers to Figure 20B (see [082]). There is no Figure 20B.

Appropriate corrections are required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims **47-53** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 47 recites the limitation "the second member" in line 7 of the claim. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims **19-23, 25, 26, 38, 40-42 and 46** are rejected under 35 U.S.C. 103(a) as being unpatentable over Pham et al. (US 6,171,780 B1) in view of Gilby (US 6,239,871 B1) and Igarashi (US 5,083,223).

Pham et al. disclose a multi-well plate comprising a lens formed at the bottom of each well (see Fig. 1B). The lens can be used to focus light into the well wherein the shape and the thickness of the lens can vary depending on the application (see lines 1-11, col. 14). The multi-well plate further comprises a flat cover 30 (see Fig. 3). The plate and the cover can be made from polypropylene (see Table 1, cols. 10-11). The multi-well plate disclosed by Pham et al. differs from the claimed invention in that the reference does not disclose the use of aplanatic lenses.

Gilby discloses a planar-convex lens for conducting fluorescence measurements. The lens 100 is aplanatic, thus eliminating spherical aberration and enabling light to concentrate at a single focus (see Fig. 3 and Abstract). The aplanatic nature of the lens allows excitation light to focus on a fluorescent compound and collect the fluorescence emitted by the compound (see Fig. 4). Igarashi discloses a plano-convex lens that is aplanatic (see Fig. 5 and lines 43-54, col. 12). The plano-convex lens comprises a rounded portion and a cylindrically shaped projection opposite the rounded portion. In light of the disclosure of Gilby, it would have been obvious to one of ordinary skill in the art to provide an aplanatic lens to the bottom of each well of the plate disclosed by Pham et al. to eliminate spherical aberration. In light of the disclosure of Igarashi, it would have been obvious to one of ordinary skill in the art to make the lens of the multi-well plate plano-convex in shape since plano-convex lenses are aplanatic.

With respect to claim 22, Pham et al. do disclose that the wells of the well-plate can be of any shape (see lines 7-15, col. 10). Therefore, it would have been obvious to taper the wells of the modified well-plate disclosed by Pham et al. and Gilby to facilitate the pipetting of the samples from the wells. Likewise, it would have been obvious to taper the projection portion of the plano-convex lens to accommodate the shape of the tapered wells.

Claim **24** is rejected under 35 U.S.C. 103(a) as being unpatentable over Pham et al. in view of Gilby and Igarashi as applied to claims 19-23, 25, 26, 38, 40-42 and 46, and further in view of Warhurst et al. (US 6,896,848 B1).

None of Pham et al. Gilby or Igarashi disclose a metallic cover.

Warhurst et al. disclose a flat cover adapted to seal the wells of a microtiter plate (see Fig. 1). The reference discloses that the cover can be made from a metal (see lines 65-67, col. 2). In light of the teachings of Warhurst et al., it would have been obvious to one of ordinary skill in the art to provide a metallic cover to the wells of the modified Pham et al. plate since metal is very strong.

Claims **19 and 39** are rejected under 35 U.S.C. 103(a) as being unpatentable over Pham et al. in view of Schroeder et al. (US 5,355,215) and as evidenced by Claytor (US 4,787,722).

As indicated above, Pham et al. disclose a microplate comprising a lens at the bottom of each well. However, Pham et al. do not disclose a Fresnel lens.

Schroeder et al. disclose a well-plate for conducting fluorescence measurements. The well-plate comprises Fresnel lenses on the bottom of the wells for exciting and collecting fluorescence (see Fig. 6 and lines 25-45, col. 6). Claytor discloses that Fresnel lenses are inherently aplanatic (see lines 10-15, col. 1). In light of the disclosure of Schroeder et al. and Claytor, it would have been obvious to one of ordinary skill in the art to incorporate Fresnel lenses to the bottom of the wells of the plate disclosed by Pham et al. since Fresnel lenses are aplanatic and thus prevent spherical aberration.

Claims **47-53** are rejected under 35 U.S.C. 103(a) as being unpatentable over Pham et al. (US 6,171,780 B1) in view of Gilby (US 6,239,871 B1) and Bjornson et al. (US 2002/0092767 A1).

Pham et al. disclose a multi-well plate comprising a lens formed at the bottom of each well (see Fig. 1B). The lens can be used to focus light into the well, and the shape as well as the thickness of the lens can vary depending on the application (see lines 1-11, col. 14). The multi-well plate further comprises a flat cover 30 (see Fig. 3). The plate and the cover can be made from polypropylene (see Table 1, cols. 10-11). The multi-well plate disclosed by Pham et al. differs from the claimed invention in that the reference does not disclose the use of aplanatic lenses. In addition, Pham et al. do not disclose a distribution network.

With respect to the aplanatic lenses, Gilby discloses a planar-convex lens for conducting fluorescence measurements. The lens 100 is aplanatic, thus eliminating spherical aberration and enabling light to concentrate at a single focus (see Fig. 3 and

Abstract). The aplanatic nature of the lens allows excitation light to focus on a fluorescent compound and collect the fluorescence emitted by the compound (see Fig. 4). In light of the disclosure of Gilby, it would have been obvious to one of ordinary skill in the art to provide an aplanatic lens to the bottom of the wells of the plate disclosed by Pham et al. to eliminate spherical aberration.

With respect to the distribution network, Bjornson et al. disclose a microplate comprising an array of wells wherein each well is part of a distribution network comprising a flow path (see Figs. 4 and 5). The distribution network enables sample separation prior to sample analysis (see [0041]-[0044]). In light of the disclosure of Bjornson et al., it would have been obvious to one of ordinary skill in the art to provide the modified Pham et al. multi-well plate with a distribution network so that a sample can be separated prior to analysis.

Response to Arguments

Applicant's arguments with respect to the art rejections have been considered but are moot in view of the new grounds of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul S. Hyun whose telephone number is (571)-272-8559. The examiner can normally be reached on Monday-Friday 8AM-4:30PM.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden can be reached on (571)-272-1267. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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PSH
1/4/08


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